

# Effects of alternative reconstruction pathways on earthquake recovery

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Project Abstract:

The proposed research will develop a reconstruction simulation model for assessing the effects of alternative reconstruction pathways on earthquake recovery, for which New Zealand currently has limited capacity. Prototypes we have developed over the past several years have proven this concept, but fundamental research and development are needed to create a working model. By consolidating historical/existing data on mechanisms at play and their influence on reconstruction progression in Canterbury after the earthquakes and continuously working with end-users throughout, dynamic modelling of underpinning processes will be undertaken. The model will be conceptually integrated into MERIT (Measuring the Economics of Resilient Infrastructure Tool). In contrast to much of the earthquake loss estimation models and community recovery models, we focus on simulating reconstruction processes. The model itself is transferrable to different contexts and disaster events and able to answer key questions, such as: what dynamics play out to influence different reconstruction pathways?; what pace and sequencing of rebuild is desired to deliver an effective recovery?; and what are the economic implications of recovery decisions?. The research will enable better recovery planning and policy development for future events in New Zealand and internationally.